



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/542,018

07/11/2005

Yoshiyuki Taniguchi

274523US0PCT

8123

22850

7590

05/29/2007

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.

1940 DUKE STREET

ALEXANDRIA, VA 22314

EXAMINER

HAILEY, PATRICIA L

ART UNIT

PAPER NUMBER

1755

NOTIFICATION DATE

DELIVERY MODE

05/29/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,018	<b>Applicant(s)</b> TANIGUCHI ET AL.	
	<b>Examiner</b> Patricia L. Hailey	<b>Art Unit</b> 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on July 11, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/11/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1755

Applicants' Preliminary Amendment, filed on July 11, 2005, has been made of record and entered. Claims 14 and 15 have been amended to eliminate multiple claim dependency, and new claims 19-28 have been added.

Claims 1-28 are now pending in this application.

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on July 11, 2005.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. ***Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

The phrase "dark ambient" in claim 14 is unclear. It appears that Applicants are intending to recite in claim 14 that the catalyst is preserved under ambient conditions—temperature, pressure--in darkness (i.e., absent direct light).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. ***Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhara et al. (U. S. Patent Application Publication No.2003/0162997).***

Uhara et al. disclose a method for the production of methacrylic acid, said method comprising introducing a preheated gas into catalyst-packed reactors, so as to retain the relative humidity of the catalyst beds in the range of not more than 40%, and elevating the temperature of said reactors, thereby preventing the catalyst from absorbing moisture. See claim 1 of Uhara et al.

Examples of the preheated gas include air and inert gases such as carbon dioxide, nitrogen gas, and argon gas (considered to read upon **claims 9, 10, 12, and 13**). The preheated gas is elevated to a temperature ranging from 50 to 400°C (considered to read upon **claims 2, 3, and 6-8, 11** regarding the “retaining temperature”, and **claim 14** regarding the phrase “catalyst is preserved in dark ambient”). See paragraphs [0020] and [0021] of Uhara et al.

The relative humidity of the catalyst beds is varied by the water content in the preheated gas and the temperature of the catalyst beds. For the purpose of elevating the temperature of the preheated gas while keeping the relative humidity of the beds below 40 %, it is advantageous to use a preheated gas having a low water content (considered to read upon **claims 2-8 and 11** regarding the “water concentration in gas in said reactor”; further, the claim recitation “or less” in describing both the claimed water concentration and “water content of 30 mg or less per 1 g of catalyst dry weight” is also considered read upon by Uhara et al., as the phrase “or less” numerically includes the value of zero). See paragraphs [0022] and [0023] of Uhara et al.

Art Unit: 1755

Uhara et al. also disclose exemplary conditions of producing methacrylic acid from methacrolein via catalytic oxidation (considered to read upon **claims 15, 16, and 19-23**). See paragraphs [0024] and [0025] of Uhara et al.

In paragraphs [0017] and [0018] of Uhara et al., the reference discloses a catalyst represented by a formula strongly similar to that recited in Applicants' **claims 17, 18, and 24-28**.

Although Uhara et al. do not recite the limitation "a method for preserving a catalyst", the reference structurally reads upon Applicants' claims in their present form, in terms of Applicants' claimed catalyst, and the conditions under which said catalyst is maintained in a reactor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reasonably expect that the teachings of Uhara et al., aimed at maintaining a catalyst under conditions of relative humidity and temperature and "preventing the catalyst from absorbing moisture" (claim 1 of Uhara et al.), to read upon Applicants' claimed "method of preserving a catalyst".

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

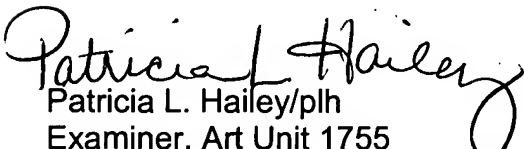
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

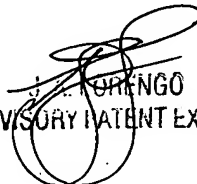
Art Unit: 1755

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Patricia L. Hailey/plh  
Examiner, Art Unit 1755  
May 21, 2007

  
J. LORENZO  
SUPERVISORY PATENT EXAMINER